

REMARKS

The Examiner is thanked for the thorough review of the present application. As attached herewith, independent claim 7 has been amended, to recite that the coolant discharge channel is oriented at an oblique angle, to direct the coolant to the cooling gaps, in a direction of the hot gas wall. Additionally, independent claim 7 has been amended, to recite that the side walls and the supporting structure are not in direct contact, but connected through the sealing element. Support for these amendments may be found in paragraphs [0032]-[0033] of the Substitute Specification, for example. Accordingly, no new matter is presented by these amendments. Independent claims 15 and 20 were similarly amended.

Claims 7-24 are pending in the subject application. The Examiner rejected claims 7-13 under 35 USC 102 as being anticipated by Ewing. Additionally, the Examiner rejected claims 12, 15-18 and 20-23 under 35 USC 103 as being unpatentable over Ewing in view of Pidcock et al. Additionally, the Examiner rejected claims 14, 19 and 24 under 35 USC 103 as being unpatentable over Ewing in view of Snyder or Ewing and Pidcock et al. in view of Snyder. Applicants respectfully request allowance of the present application in view of the following remarks.

Rejection of Claims 7-13 under 35 U.S.C. §102(b)

As attached herewith, amended independent claim 7 recites that the coolant discharge channel is oriented at an oblique angle, to direct the coolant in a direction of the hot gas wall. Additionally, amended independent claim 7 recites that the side walls and the supporting structure are not in direct contact, but connected through the sealing element, which provides mechanical damping. Neither the Ewing, Pidcock et al., or Snyder references, or any cited prior art reference, discloses these recitations and accordingly, amended independent claim 7 is patentable.

Ewing discloses a support structure 1 (FIG. 1) with a two-dimensional array of metal cells 3 that are “brazed or welded to the support structure” (col. 1, lines 63). Side portions 8 of the cells 3 are separated by gaps 5 (col. 1, lines 63-64). Ewing expressly teaches that “cooling

air passes through passageways 11 formed in the support structure and thereafter through orifices 7 formed in the side walls 8 of the cells. The cooling air then passes to the top portions 13 of the cells, via the expansion gaps 5, to form a film of cooling air indicated by arrows 14.” (col. 1, line 68 – col. 2 line 4).

The Examiner contended that the metal cells 3 of Ewing are the recited heat shield elements; that the support structure 1 of Ewing is the recited support structure; and that the orifices 7 of Ewing are the recited coolant discharge channel. However, as discussed above, independent claim 7 has been amended, to recite that the side walls and the supporting structure are not in direct contact, and are connected through the sealing element, which provides mechanical damping. Ewing teaches away this recitation, as the metal cells 3 are expressly “brazed or welded” to the support structure 1, and thus the side walls 8 are “brazed or welded” to the support structure 1. Additionally, the Examiner contended that the “braze or weld” is itself the recited sealing element (Office Action, p.2). Indeed, the “braze or weld” between the side walls 8 and the support structure 1 does not provide mechanical damping between the side walls 8 and support structure 1. Indeed, Ewing fails to disclose that the side walls and the supporting structure are not in direct contact, and connected through the sealing element, which provides mechanical damping. Accordingly, amended independent claim 7 is patentable.

As discussed above, Ewing expressly teaches that, once the coolant passes through the orifices 7, “the cooling air then passes to the top portions 13 of the cells, via the expansion gaps 5” (col. 2, lines 1-3). Thus, Ewing expressly teaches that the expansion gaps 5 are configured to direct the cooling air upward to the top portions 13. Indeed, Ewing fails to disclose that the orifices 7 are oriented at an oblique angle, to direct the cooling fluid in the direction of the top portions 13. Thus, Ewing fails to disclose that the coolant discharge channel is oriented at an oblique angle, to direct the coolant in a direction of the hot gas wall, as recited in amended independent claim 7. Accordingly, amended independent claim 7 is patentable.

In view of the above, amended independent claim 7 is patentable. Amended independent claim 15 and amended independent claim 20 include similar recitations to amended independent claim 7. The arguments set forth above with regard to amended independent claim 7 are restated herein with regard to amended independent claim 15 and amended independent claim 20. Accordingly, amended independent claims 7, 15 and 20 are patentable. Furthermore, in view of

the patentability of amended independent claims 7, 15 and 20, it is also submitted that all of their dependent claims, that recite yet further distinguishing features, are also patentable. These dependent claims require no further discussion herein.

Rejection of Claims 12, 14, 15-18, 19-24 under 35 USC 103

In view of the arguments above, amended independent claims 7, 15 and 20 are patentable. Furthermore, in view of the patentability of amended independent claims 7, 15 and 20, it is also submitted that all of their dependent claims, that recite yet further distinguishing features, are also patentable. These dependent claims require no further discussion herein.

Conclusion

Accordingly, Applicants respectfully request that the Examiner timely pass the application to allowance. Please grant any extensions of time required to enter this paper. The Commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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